

WHAT IS CLAIMED IS:

1. A sound generation method comprising:

a basic information converting process, where basic information having a chaos is converted to data that are numerically operable;

a chaotic space generating process, where a chaotic space is generated by calculating a chaos attractor on the basis of the data, which have been converted by said basic information converting process; and

a sound generating process, where a sound file is generated from the data in the chaotic space, which has been generated by said chaotic space generating process, in compliance with a predetermined sound generation rule.

2. A sound generation method comprising:

a basic information converting process, where basic information having a fractal is converted to data that are numerically operable;

a fractal space generating process, where a fractal space is generated by extracting a fractal feature on the basis of the data, which have been converted by said basic information converting process; and

a sound generating process, where a sound file is generated from the fractal space, which has been generated by said fractal space generating process, in compliance with a predetermined sound generation rule.

3. A sound generation method comprising:

a physiological signal converting process, where a signal chronologically generated from an individual informant is converted to data that are numerically operable;

a chaotic space generating process, where a chaotic space is generated by calculating a chaos attractor on the basis of the data, which have been converted by said physiological signal converting process; and

a sound generating process, where a sound file adapted for said informant is generated from the data in the chaotic space, which has been generated by said chaotic space generating process, in compliance with a predetermined sound generation rule.

4. A sound generation method comprising:

a physiological signal converting process, where a signal chronologically generated from an individual informant is converted to data that are numerically operable;

a fractal space generating process, where a fractal space is generated by extracting a feature of self-similarity on the basis of the data, which have been converted by said physiological signal converting process; and

a sound generating process, where a sound file adapted for said informant is generated from the fractal space, which has been generated by said fractal space generating process, in compliance with a predetermined sound generation rule.

5. The sound generation method as set forth in claim 3, wherein said physiological signal converting process comprises:

a physiological signal measuring process, which measures a physiological signal;

a frequency-analyzing process, which calculates the physiological signal data measured by said physiological signal measuring process as numerical data for a plurality of frequency bands; and

a sound generating process, which corresponds to a nerve-descriptive characteristic of the living body of said individual informant on a basis of said frequency-analyzing process.

6. The sound generation method as set forth in claim 4, wherein said physiological signal converting process comprises:

a physiological signal measuring process, which measures a physiological signal;

a frequency-analyzing process, which calculates the

physiological signal data measured by said physiological signal measuring process as numerical data for a plurality of frequency bands; and

a sound generating process, which corresponds to a nerve-descriptive characteristic of the living body of said individual informant on a basis of said frequency-analyzing process.

7. The sound generation method as set forth in claim 3, wherein said chaotic space generating process comprises:

a condition-evaluating process, which evaluates the condition of the mind and body of said informant by comparing the numerical data, which have been calculated by said frequency-analyzing process from the nerve-descriptive characteristic of the living body of said individual informant; and

a section-changing process, which changes a plane that cuts through the chaos attractor, in correspondence with the evaluation by said condition-evaluating process.

8. The sound generation method as set forth in claim 4, wherein said fractal space generating process comprises:

a condition-evaluating process, which evaluates the condition of the mind and body of said informant by comparing the numerical data, which have been calculated by said frequency-analyzing process from the nerve-descriptive characteristic of the living body of said individual informant; and

a scaling width modifying process, which modifies the scaling width for extracting a fractal feature, in correspondence with the evaluation by said condition-evaluating process.

9. The sound generation method as set forth in claim 3, wherein said sound generating process comprises:

a condition-inputting process, which has an interface to enable communication with the informant providing said physiological signal so that conditions for the sound generation can be input; and

a generation-rule setting process, which sets said sound generation rule in compliance with the conditions input by said condition-inputting process, so that said sound generating process generates said sound file in compliance with the generation rule, which has been set by said generation-rule setting process.

10. The sound generation method as set forth in claim 4, wherein said sound generating process comprises:

a condition-inputting process, which has an interface to enable communication with the informant providing said physiological signal so that conditions for the sound generation can be input; and

a generation-rule setting process, which sets said sound generation rule in compliance with the conditions input by said condition-inputting process, so that said sound generating process generates said sound file in compliance with the generation rule, which has been set by said generation-rule setting process.

11. The sound generation method as set forth in claim 7, wherein said condition-evaluating process evaluates the condition of the mind and body by the ratio of α -wave appearances in the brain waves.

12. The sound generation method as set forth in claim 8, wherein said condition-evaluating process evaluates the condition of the mind and body by the ratio of α -wave appearances in the brain waves.

13. The sound generation method as set forth in any one of claims 3 ~ 10, wherein at least one of pulse wave, electrocardiograph, brain wave, electromyogram and respiration is used as said physiological signal.

14. A computer-readable storage medium for storing a program to execute at least one of the sound generation methods

set forth in claims 1 to 12, on a computer.

15. A computer-readable storage medium for storing a program to execute the sound generation method set forth in claim 13, on a computer.

16. A stand-alone sound generation and playback apparatus comprising:

- means for measuring a physiological signal;
- a computer, which executes at least one of the sound generation methods set forth in claims 1 to 12;
- means for playing a sound generated by said sound generation method; and
- means for measuring the condition of an individual informant who provides said physiological signal and listens to said sound.

17. A stand-alone sound generation and playback apparatus comprising:

- means for measuring a physiological signal;
- a computer, which executes the sound generation method set forth in claim 13;
- means for playing a sound generated by said sound generation method; and
- means for measuring the condition of an individual informant who provides said physiological signal and listens to said sound.

18. A network-communicative sound generation and playback system comprising:

- a server computer, which executes at least one of the sound generation methods set forth in claims 1 to 12; and
- means to be executed by a remote computer, which is connected to said server computer through a computer network, said means comprising means for measuring a physiological signal, which

is necessary for said sound generation method, and means for playing a sound.

19. A network-communicative sound generation and playback system comprising:

a server computer, which executes the sound generation method set forth in claim 13; and

means to be executed by a remote computer, which is connected to said server computer through a computer network, said means comprising means for measuring a physiological signal, which is necessary for said sound generation method, and means for playing a sound.